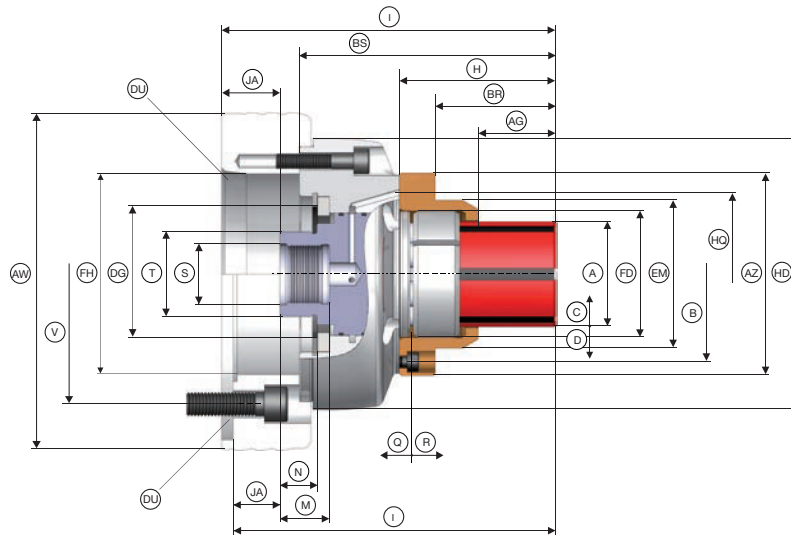




STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size XXS with flange. Technical data



Size	XXS							
Clamping range [mm]	A							
Spindle nose	DU							
	8 - 13							
	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]	0,020							
Max. radial clamping force [kN]	42							
Max. axial drawtube force [kN]	10							
Max. clamping length [mm]	AG							
Reserve stroke in Ø [mm]	D							
Release stroke in Ø [mm]	C							
RPM n max. [1/min.]	7000							
Reserve stroke axial [mm]	Q							
Release stroke axial [mm]	R							
Reception workpiece end-stop	FD							
End-stop outer Ø [mm]	AZ							
End-stop outer Ø 2 [mm]	EM							
Bolt hole circle end-stop	B							
Length [mm]	H							
Length 2 [mm]	BS							
Total length [mm]	I							
Depth [mm]	BR							
Connecting thread inside	S							
Connecting thread outside	T							
Distance [mm]	JA							
Depth of thread [mm]	M							
Thread length [mm]	N							
Max. drawtube Ø [mm]	DG							
Minimum length of DG [mm]	FH							
Bore-Ø	V							
Bolt hole circle	AW							
Outer Ø [mm]	HD							
Outer Ø 2 [mm]	HQ							
Air sensing control bolt hole circle-Ø [mm]	3							
Air sensing control bore Ø [mm]	12 H7							
Central air sensing connection Ø optional [mm]								
Weight [kg]	9,1	8,5	9,5	14,3	8,7	9,3	11,1	16,6

				
Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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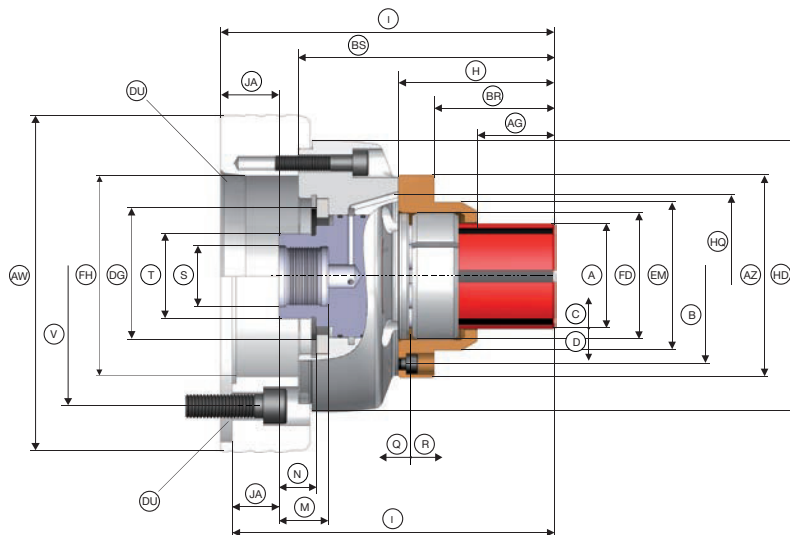
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Mounting aid depending on size

STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size XS with flange. Technical data



Size	XS							
Clamping range [mm]	13 – 19							
Spindle nose	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]	0,020							
Max. radial clamping force [kN]	42							
Max. axial drawtube force [kN]	10							
Max. clamping length [mm]	14							
Reserve stroke in Ø [mm]	0,25							
Release stroke in Ø [mm]	0,25							
RPM n max. [1/min.]	7000							
Reserve stroke axial [mm]	1,5							
Release stroke axial [mm]	2							
Reception workpiece end-stop	Ø 36 f7							
End-stop outer Ø [mm]	65							
End-stop outer Ø 2 [mm]	42							
Bolt hole circle end-stop	LK Ø 53 [3 x M6]							
Length [mm]	40							
Length 2 [mm]	95							
Total length [mm]	135		139		135			
Depth [mm]	36,50							
Connecting thread inside	M30 x 1,5							
Connecting thread outside	M44 x 1,5							
Distance [mm]	30		34		30			
Depth of thread [mm]	25,5							
Thread length [mm]	19							
Max. drawtube Ø [mm]	54							
Minimum length of DG [mm]	13							
Bore-Ø	61	79,6	103,2	100	77	80	103	
Bolt hole circle	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	140		165		140		150	
Outer Ø 2 [mm]	139							
Air sensing control bolt hole circle-Ø [mm]	56							
Air sensing control bore Ø [mm]	3							
Central air sensing connection Ø optional [mm]	12 H7							
Weight [kg]	8,7	8,1	9,1	13,9	8,3	8,9	10,7	16,2



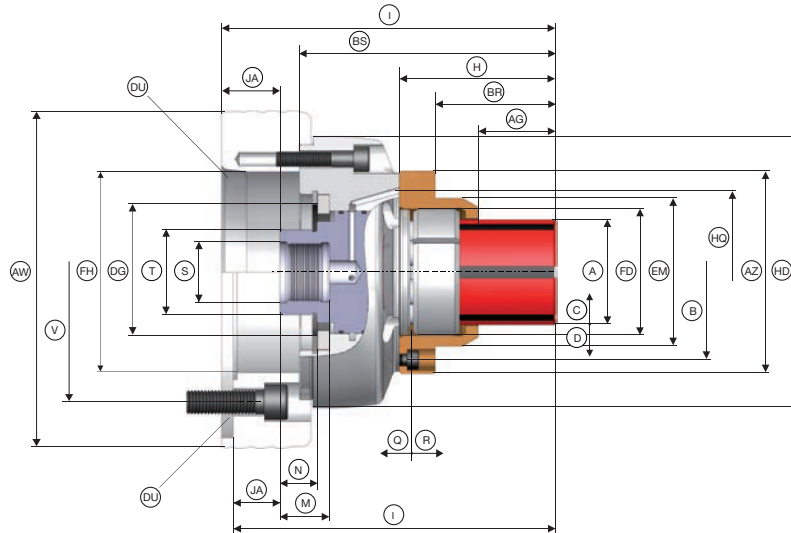
Scope of delivery

- Mandrel without spindle flange/
without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented
clamping bushings
- Mounting aid depending on size

STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size S with flange. Technical data



Size	S								
Clamping range [mm]	16 – 21								
Spindle nose	A	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]	DU	0,020							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [kN]		10							
Max. clamping length [mm]	AG	15,00							
Reserve stroke in Ø [mm]	D	0,25							
Release stroke in Ø [mm]	C	0,25							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 39 f7							
End-stop outer Ø [mm]	AZ	70							
End-stop outer Ø 2 [mm]	EM	45							
Bolt hole circle end-stop	B	LK Ø 57 [3 x M6]							
Length [mm]	H	47,5							
Length 2 [mm]	BS	97							
Total length [mm]	I	137		141		137			
Depth [mm]	BR	38,00							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	60							
Air sensing control bore Ø [mm]		3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,8	8,2	9,2	14	8,4	9	10,8	16,3

Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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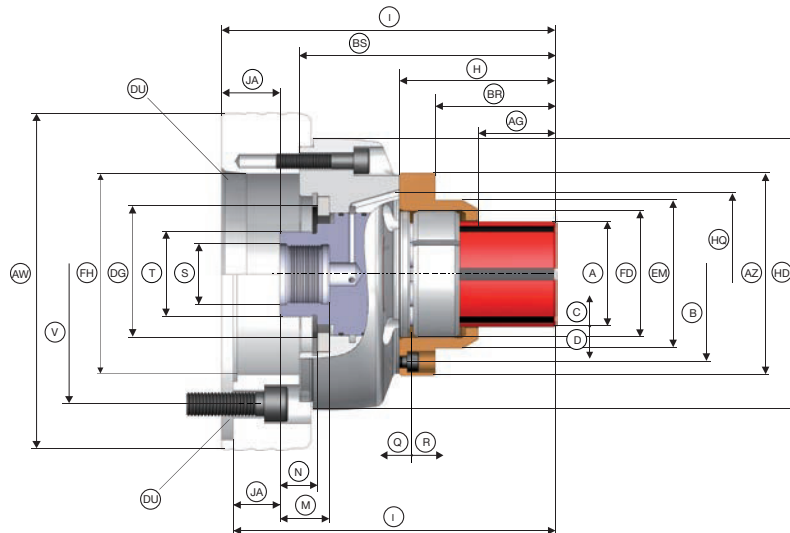
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size

STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 0 with flange. Technical data



Size	0							
Clamping range [mm]	A							
Spindle nose	20 – 28							
	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]	0,010							
Max. radial clamping force [kN]	42							
Max. axial drawtube force [kN]	10							
Max. clamping length [mm]	AG							
Reserve stroke in Ø [mm]	D							
Release stroke in Ø [mm]	C							
RPM n max. [1/min.]	7000							
Reserve stroke axial [mm]	Q							
Release stroke axial [mm]	R							
Reception workpiece end-stop	FD							
End-stop outer Ø [mm]	AZ							
End-stop outer Ø 2 [mm]	EM							
Bolt hole circle end-stop	B							
Length [mm]	H							
Length 2 [mm]	BS							
Total length [mm]	I							
Depth [mm]	BR							
Connecting thread inside	S							
Connecting thread outside	T							
Distance [mm]	JA							
Depth of thread [mm]	M							
Thread length [mm]	N							
Max. drawtube Ø [mm]	DG							
Minimum length of DG [mm]	FH							
Bore-Ø	V							
Bolt hole circle	HQ							
Outer Ø [mm]	AW							
Outer Ø 2 [mm]	HD							
Air sensing control bolt hole circle-Ø [mm]	HQ							
Air sensing control bore Ø [mm]	3							
Central air sensing connection Ø optional [mm]	12 H7							
Weight [kg]	9,5	8,9	9,9	14,7	9,1	9,7	11,5	17



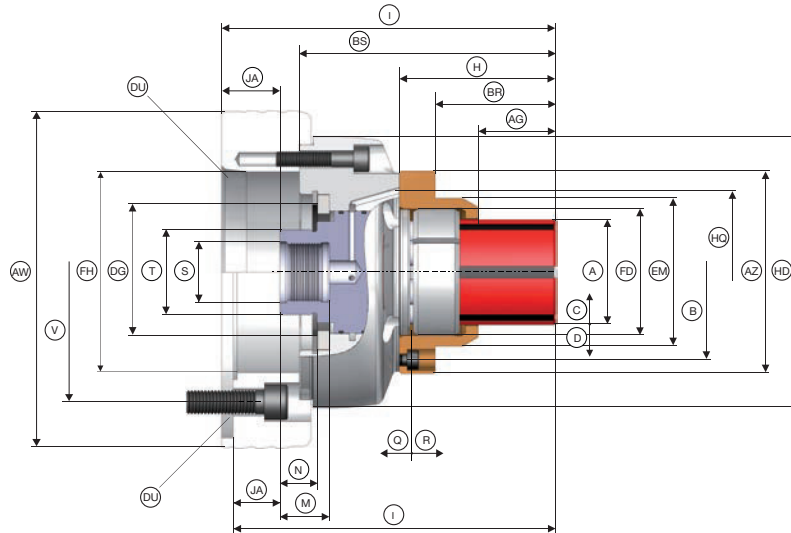
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size

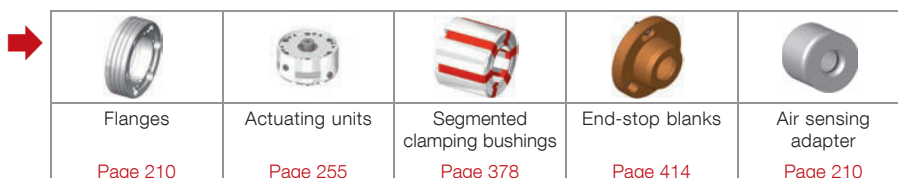
STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 1 with flange. Technical data



Size	1								
Clamping range [mm]	A 26 – 38								
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]									0,010
Max. radial clamping force [kN]									42
Max. axial drawtube force [kN]									10
Max. clamping length [mm]	AG								25,00
Reserve stroke in Ø [mm]	D								0,25
Release stroke in Ø [mm]	C								0,25
RPM n max. [1/min.]									7000
Reserve stroke axial [mm]	Q								1,5
Release stroke axial [mm]	R								2
Reception workpiece end-stop	FD								Ø 55 f7
End-stop outer Ø [mm]	AZ								90
End-stop outer Ø 2 [mm]	EM								62
Bolt hole circle end-stop	B								LK Ø 75 [3 x M6]
Length [mm]	H								64,5
Length 2 [mm]	BS								114
Total length [mm]	I		154		159			154	
Depth [mm]	BR								47
Connecting thread inside	S								M30 x 1,5
Connecting thread outside	T								M44 x 1,5
Distance [mm]	JA		30		34			30	
Depth of thread [mm]	M								25,5
Thread length [mm]	N								19
Max. drawtube Ø [mm]	DG								54
Minimum length of DG [mm]									13
Bore-Ø	FH	61	79,6	103,2	100	77	80		103
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]		LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW		140	165	210	140	150	180	230
Outer Ø 2 [mm]	HD								139
Air sensing control bolt hole circle-Ø [mm]	HQ								70
Air sensing control bore Ø [mm]									3
Central air sensing connection Ø optional [mm]									12 H7
Weight [kg]		9,5	8,9	9,9	14,7	9,1	9,7	11,5	17



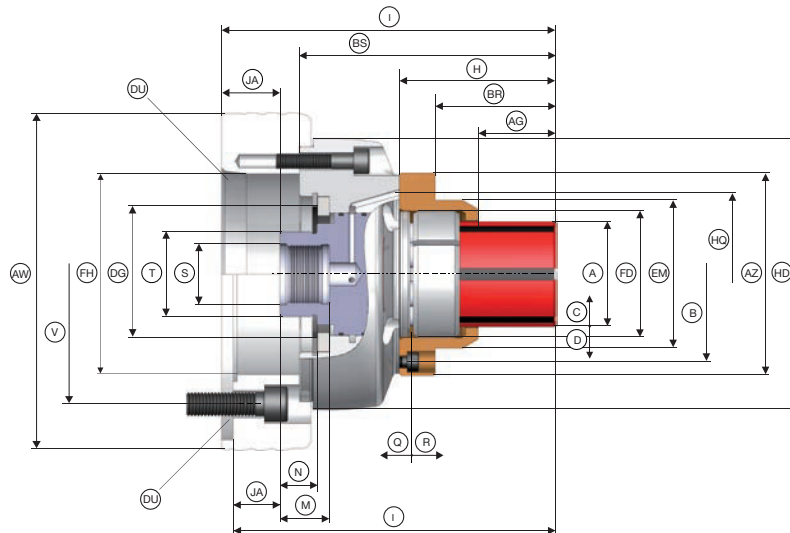
Scope of delivery

- Mandrel without spindle flange/
without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size

STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 2 with flange. Technical data



Size	2								
Clamping range [mm]	A 36 – 54								
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]									
Max. radial clamping force [kN]									
Max. axial drawtube force [kN]									
Max. clamping length [mm]	AG								
Reserve stroke in Ø [mm]	D								
Release stroke in Ø [mm]	C								
RPM n max. [1/min.]									
Reserve stroke axial [mm]	Q								
Release stroke axial [mm]	R								
Reception workpiece end-stop	FD								
End-stop outer Ø [mm]	AZ								
End-stop outer Ø 2 [mm]	EM								
Bolt hole circle end-stop	B								
Length [mm]	H								
Length 2 [mm]	BS								
Total length [mm]	I								
Depth [mm]	BR								
Connecting thread inside	S								
Connecting thread outside	T								
Distance [mm]	JA								
Depth of thread [mm]	M								
Thread length [mm]	N								
Max. drawtube Ø [mm]	DG								
Minimum length of DG [mm]									
Bore-Ø	FH								
Bolt hole circle	V								
Outer Ø [mm]	AW								
Outer Ø 2 [mm]	HD								
Air sensing control bolt hole circle-Ø [mm]	HQ								
Air sensing control bore Ø [mm]									
Central air sensing connection Ø optional [mm]									
Weight [kg]									



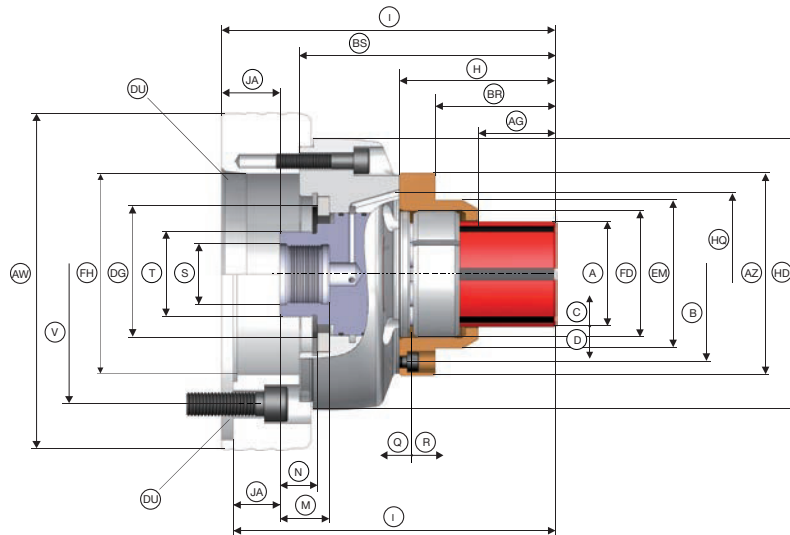
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 3 with flange. Technical data



Size	3								
Clamping range [mm]	A 50 – 80								
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]		0,010							
Max. radial clamping force [kN]		105							
Max. axial drawtube force [kN]		25							
Max. clamping length [mm]	AG	44,50							
Reserve stroke in Ø [mm]	D	0,35							
Release stroke in Ø [mm]	C	0,35							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2,5							
Reception workpiece end-stop	FD	Ø 83 f7							
End-stop outer Ø [mm]	AZ	120							
End-stop outer Ø 2 [mm]	EM	105							
Bolt hole circle end-stop	B	LK Ø 104 [3 x M6]							
Length [mm]	H	87,5							
Length 2 [mm]	BS	140							
Total length [mm]	I	180		184		180			
Depth [mm]	BR	66,50							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165	210	140	150	180	230
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	100							
Air sensing control bore Ø [mm]		3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		11,3	10,7	11,7	16,5	10,9	11,5	13,3	18,8

				
Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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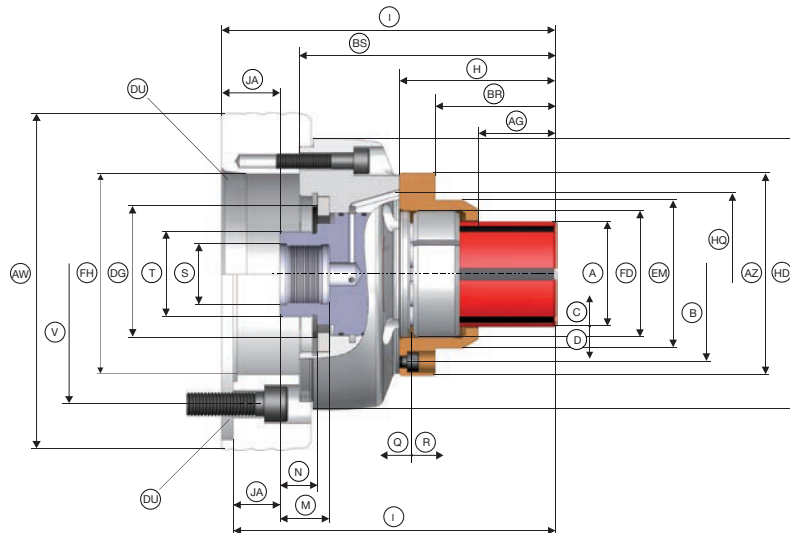
Scope of delivery

- Mandrel without spindle flange/
without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size

STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 4 with flange. Technical data



Size	4							
Clamping range [mm]	A							
Spindle nose	DU							
	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Concentricity [mm]	0,010							
Max. radial clamping force [kN]	150							
Max. axial drawtube force [kN]	35							
Max. clamping length [mm]	AG 52,50							
Reserve stroke in Ø [mm]	D 0,4							
Release stroke in Ø [mm]	C 0,4							
RPM n max. [1/min.]	6000							
Reserve stroke axial [mm]	Q 2,5							
Release stroke axial [mm]	R 3							
Reception workpiece end-stop	FD Ø 103 f7							
End-stop outer Ø [mm]	AZ 138							
End-stop outer Ø 2 [mm]	EM 124							
Bolt hole circle end-stop	B LK Ø 124 [3 x M6]							
Length [mm]	H 97,5							
Length 2 [mm]	BS 148,5							
Total length [mm]	I 190,5		194,5		190,5			
Depth [mm]	BR 77,50							
Connecting thread inside	S M30 x 1,5							
Connecting thread outside	T M44 x 1,5							
Distance [mm]	JA 30		34		30			
Depth of thread [mm]	M 25,5							
Thread length [mm]	N 19							
Max. drawtube Ø [mm]	DG 54							
Minimum length of DG [mm]	13							
Bore-Ø	FH 61		79,6		103,2		100	
Bolt hole circle	V LK Ø 82,6 [3 x M10]		LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]		LK Ø 171,4 [6 x M16]	
Outer Ø [mm]	AW 140		165		210		140	
Outer Ø 2 [mm]	HD 139							
Air sensing control bolt hole circle-Ø [mm]	HQ 116							
Air sensing control bore Ø [mm]	3							
Central air sensing connection Ø optional [mm]	12 H7							
Weight [kg]	12,5	11,9	12,9	17,7	12,1	12,7	14,5	20



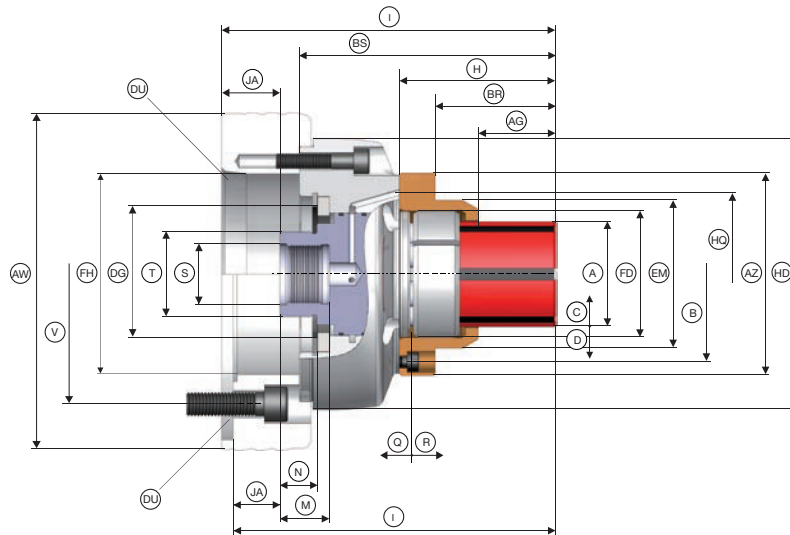
Scope of delivery

- Mandrel without spindle flange/
without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size






STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 5 with flange. Technical data



Size	5		
Clamping range [mm]	A	100 – 130	
Spindle nose	DU	A2-6	A2-8
Concentricity [mm]			0,010
Max. radial clamping force [kN]			170
Max. axial drawtube force [kN]			40
Max. clamping length [mm]	AG		53
Reserve stroke in Ø [mm]	D		0,5
Release stroke in Ø [mm]	C		0,5
RPM n max. [1/min.]			5000
Reserve stroke axial [mm]	Q		3
Release stroke axial [mm]	R		3
Reception workpiece end-stop	FD		Ø 140 f7
End-stop outer Ø [mm]	AZ		195
End-stop outer Ø 2 [mm]	EM		160
Bolt hole circle end-stop	B		LK Ø 176 [3 x M8]
Length [mm]	H		112
Length 2 [mm]	BS		175
Total length [mm]	I	238,5	242,5
Depth [mm]	BR		92
Connecting thread inside	S		M30 x 1,5
Connecting thread outside	T		M44 x 1,5
Distance [mm]	JA	53,5	57,5
Depth of thread [mm]	M		25,5
Thread length [mm]	N		19
Max. drawtube Ø [mm]	DG		118
Minimum length of DG [mm]			13
Bore-Ø	FH	103	136
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	235	280
Outer Ø 2 [mm]	HD		230
Air sensing control bolt hole circle-Ø [mm]	HQ		170
Air sensing control bore Ø [mm]			3
Central air sensing connection Ø optional [mm]			12 H7
Weight [kg]		40	39

				
Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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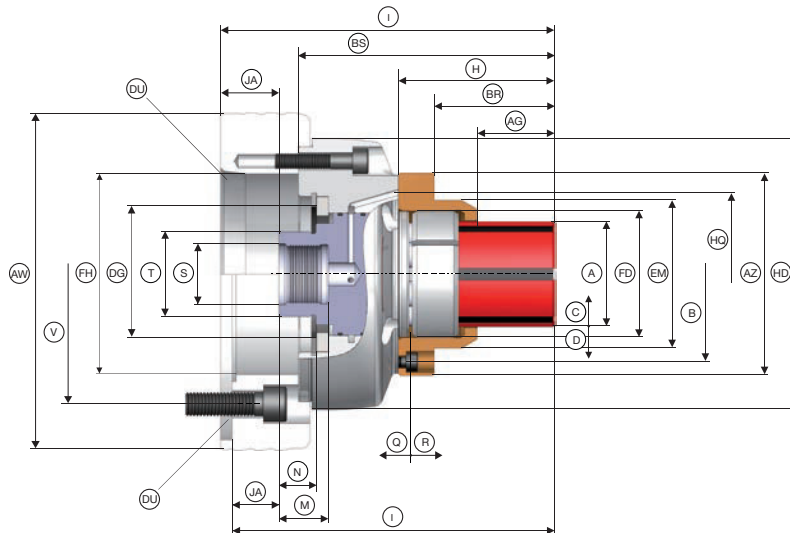
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size


STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 6 with flange. Technical data



Size	6			
Clamping range [mm]	A	130 – 160		
Spindle nose	DU	A2-6	A2-8	A2-11
Concentricity [mm]			0,010	
Max. radial clamping force [kN]			170	
Max. axial drawtube force [kN]			40	
Max. clamping length [mm]	AG		61	
Reserve stroke in Ø [mm]	D		0,5	
Release stroke in Ø [mm]	C		0,5	
RPM n max. [1/min.]			4000	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		3	
Reception workpiece end-stop	FD		Ø 164 f7	
End-stop outer Ø [mm]	AZ		226	
End-stop outer Ø 2 [mm]	EM		190	
Bolt hole circle end-stop	B		LK Ø 200 [3 x M8]	
Length [mm]	H		121,5	
Length 2 [mm]	BS		188,5	
Total length [mm]	I	252	256	262
Depth [mm]	BR		87	
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		142	
Minimum length of DG [mm]			13	
Bore-Ø	FH	103	136	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW		235	280
Outer Ø 2 [mm]	HD		231	
Air sensing control bolt hole circle-Ø [mm]	HQ		192	
Air sensing control bore Ø [mm]			3	
Central air sensing connection Ø optional [mm]			12 H7	
Weight [kg]			45	55

				
Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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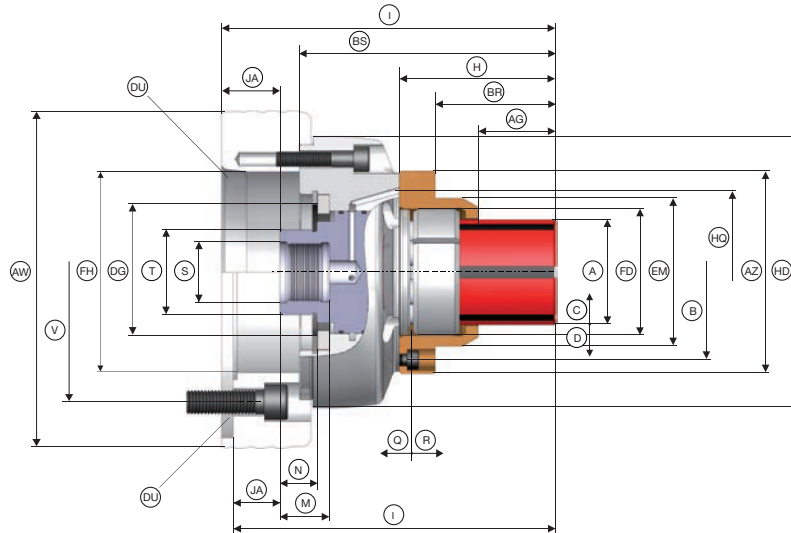
Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size






STANDARD SEGMENTED MANDRELS

Mandrel MANDO

MANDO T212 size 7 with flange. Technical data



Size	7			
Clamping range [mm]	A	160 – 190		
Spindle nose	DU	A2-6	A2-8	A2-11
Concentricity [mm]			0,010	
Max. radial clamping force [kN]			140	
Max. axial drawtube force [kN]			45	
Max. clamping length [mm]	AG		55	
Reserve stroke in Ø [mm]	D		0,5	
Release stroke in Ø [mm]	C		0,5	
RPM n max. [1/min.]			3200	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		4	
Reception workpiece end-stop	FD		Ø 192 f7	
End-stop outer Ø [mm]	AZ		234	
End-stop outer Ø 2 [mm]	EM		212	
Bolt hole circle end-stop	B		LK Ø 216 [3 x M8]	
Length [mm]	H		115	
Length 2 [mm]	BS		184	
Total length [mm]	I	247,5	251,5	257,5
Depth [mm]	BR		101	
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		142	
Minimum length of DG [mm]			0	
Bore-Ø	FH	103	136	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW		235	280
Outer Ø 2 [mm]	HD		237	
Air sensing control bolt hole circle-Ø [mm]	HQ		216	
Air sensing control bore Ø [mm]			3	
Central air sensing connection Ø optional [mm]			12 H7	
Weight [kg]			49	58

				
Flanges	Actuating units	Segmented clamping bushings	End-stop blanks	Air sensing adapter
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Scope of delivery

- Mandrel without spindle flange/ without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size